

AMENDMENTS TO THE CLAIMS

IN THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application. Please amend the claims as follows.

1. (original) A method for identifying a compound having the ability to modulate virus propagation in a host cell comprising the steps of:

(a) generating a three-dimensional model of a protein required for viability of a virus, or a portion thereof;

(b) generating a three-dimensional model of a potential modulator compound of interest; and

(c) determining at least one atomic interaction between the potential modulator compound and the protein, or a portion thereof, as defined by the three-dimensional models of (a) and (b).

2-6. (canceled).

7. (original) Compounds identified by the method of claim 1.

8. (original) A method for identifying a compound having the ability to modulate orthopox virus propagation in a host cell comprising the steps of:

(a) generating a three-dimensional model of an I7L protein, or a portion thereof,

(b) generating a three-dimensional model of a potential modulator compound of interest; and

(c) determining at least one atomic interaction between the potential modulator compound and the I7L, or a portion thereof, as defined by the three-dimensional models of (a) and (b).

9-28. (canceled).

29. (original) Compounds identified by the method of claim 8.

30. (currently amended) A method of generating a three-dimensional model of a protein, or a portion thereof, comprising the steps of: (a) providing an amino acid sequence of a protein of interest; (b) comparing the amino acid sequence of the protein of interest to the amino acid sequences for a plurality of other proteins; (c) using the plurality of proteins to identify ~~identifying~~ a second protein for which a three-dimensional structure has been defined, and that has a predetermined level of sequence identity to the protein of interest; (d) aligning conserved residues from the protein of interest with conserved residues from the second protein; and (e) threading the protein of interest along the three-dimensional structure of the second protein such that a ~~the~~ position of at least two conserved residues from both proteins are aligned.

31-34. (canceled).

35. (original) A computer model for I7L protein, or a portion thereof, comprising atomic coordinates for a three-dimensional model for I7L protein, or a portion thereof, operable to be visualizable on a computer screen.

36-44. (canceled).

45. (original) A pharmacophore comprising at least one atom that interacts with at least one atom of an I7L protein, or a portion thereof.

46-54. (canceled).

55. (currently amended) A compound comprising at least one atom ~~that~~ that interacts with at least one atom of an I7L protein, or a portion thereof, to modulate the activity of I7L.

56-66. (canceled)

67. (original) A pharmaceutical composition comprising a compound identified by docking a computer representation of the compound with a computer representation of a structure of I7L protein, or a portion thereof.

68-78. (canceled).

79. (original) A method of conducting a drug discovery business comprising:

- (a) generating a three-dimensional structural model of a target molecule of interest on a computer;
- (b) generating a three-dimensional structural model of a potential modulator compound of the target molecule of interest on a computer; and
- (c) docking the model for the potential modulator compound with the target molecule of interest so as to minimize the free energy of the interaction between the target molecule and the potential modulator.

80. (canceled).

81. (original) A method of treating orthopox infections comprising administering a therapeutically effective amount of a compound identified by the steps of:

- (a) generating a three-dimensional model of a I7L protein, or a portion thereof,
- (b) generating a three-dimensional model of a potential modulator compound of interest; and
- (c) determining the atomic interactions between the potential modulator compound and the I7L protein, or a portion thereof, as defined by the three-dimensional models of (a) and (b).